REMARKS

After entry of the above amendments, claims 1-32 will be pending in the subject application. New claims 17-32 correspond to original claims 1-16 and are supported in the specification. Amendments to the specification and claims merely correct typographical and clerical errors and are not intended to limit the scope of the invention or overcome any cited prior art. No new matter has been added.

Claim Rejections

Claims 1-16 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,963,933 to Cheng et al.

Claims 1 and 17 recite "updating each row in the destination table with a row from the results of the outer join operation containing a matching element in the first and second columns" and "inserting into the destination table each row from the results of the outer join operation with a non-matching element in the first and second columns." The Office action states:

> Cheng does not explicitly teaches updating each row in the destination table in row the results of the outer join operation containing a matching element in the first and second columns; and inserting into the destination table row from the results of the full outer join operation with a non-matching elements in the first and second column. However, Cheng teaches, "if the tuples of tables are preserved, then the operation is called full outer join" (col. 2, lines 49-50). In addition, Cheng also teaches, "in the output or answer set, for the non-matching tuples of a preserved table, NULL values assigned to the columns of other table" (col. 2, lines 53-55). This teaches the Null values are assigned to the columns of the other table (destination table). Therefore, it would have been obvious to one ordinary skill in the art to include the full outer join to combine those tables containing the columns of rows join those records and fill in the NULL values for empty columns to allow the user to receive the corrected result set from the requested query.

(January 28, 2003 Office action, pgs. 2-3).

However, the cited passages of Cheng merely disclose the different types of outer joins (e.g., full outer join, left outer join, and right outer join) and that for non-matching tuples of a preserved table NULL values are assigned to the columns of the other table. "Updating each row in the

destination table with a row from the results of the outer join operation containing a matching element in the first and second columns" and "inserting into the destination table each row from the results of the outer join operation with a non-matching element in the first and second columns" as recited in claims 1 and 17 are not disclosed anywhere in Cheng.

"Updating each row in the destination table with a row from the results of the outer join operation containing a matching element in the first and second columns" and "inserting into the destination table each row from the results of the outer join operation with a non-matching element in the first and second columns" is only taught by applicants' own disclosure. Therefore, modifying Cheng to include "updating each row in the destination table with a row from the results of the outer join operation containing a matching element in the first and second columns" and "inserting into the destination table each row from the results of the outer join operation with a non-matching element in the first and second columns," as taught only by applicants' own disclosure, is impermissible hindsight under MPEP § 2145. Accordingly, it is respectfully submitted that claims 1 and 17 are patentable over Cheng based at least on the reasons discussed above. Given that claims 2-4 and 18-20 depend from claims 1 and 17, applicants respectfully submit that those claims are also patentable over Cheng for at leas the same reasons.

Claims 5 and 21 recite "updating the destination table with the set of matching rows" and "inserting into the destination table the set of non-matching rows." The Office action states:

> Cheng does not explicitly teach updating the destination table with the set of matching rows; and inserting into destination table the set of non-matching rows. However, Cheng teaches, "if the tuples of tables are preserved, then the operation is called full outer join" (col. 2, lines 49-50). In addition, Cheng also teaches, "in the output or answer set, for the non-matching tuples of a preserved table, NULL values assigned to the columns of the other table" (col. 2, lines 53-55). This teaches the Null values are assigned to the columns of the other table (destination table). Therefore, it would have been obvious to one ordinary skill in the art to include the full outer join to combine those tables containing the columns of rows join those records and fill in the NULL values for empty columns to allow the user to receive the corrected result set from the requested query.

(January 28, 2003 Office action, pgs. 4-5).

However, as discussed above with respect to claims 1 and 17, Cheng neither teaches nor suggests "updating the destination table with the set of matching rows" or "inserting into the destination table the set of non-matching rows" as recited in claims 5 and 21. Accordingly, based at least on the above, applicants respectfully submit that claims 5 and 21 are patentable over Cheng. Given that claims 6-8 and 22-24 depend from claims 5 and 21, it is respectfully submitted that those claims are also patentable over Cheng for at least the same reasons.

Claims 9 and 25 recite "updating a row in the destination table with a row from the source table upon the success of a comparison operation on an element in the first column of the row from the source table and an element in the second column of the row from the destination table" and "inserting a row from the source table into the destination table upon the failure of a comparison operation on an element in the first column of the row from the source table and an element in the second column of the row from the destination table." The Office action states:

> Cheng does not explicitly teach updating a row in the destination table with a row from the source table upon the success of a comparison operation on an element in the first column of the row from the source table and an element in the second column of the row from the destination table; and inserting a row from the source table into the destination table upon the failure of a comparison operation on an element in the first column of the row from the source table and an element in the second column of the row from the destination table. However, Cheng teaches, "if the tuples of tables are preserved, then the operation is called full outer join" (col. 2, lines 49-50). In addition, Cheng also teaches, "in the output or answer set, for the non-matching tuples of a preserved table, NULL values assigned to the columns of other table" (col. 2, lines 53-55). This teaches the Null values are assigned to the columns of the other table (destination table). Therefore, it would have been obvious to one ordinary skill in the art to include the full outer join to combine those table containing the columns of rows join those records and fill in the NULL values for empty columns to allow the user to receive the corrected result set from the requested query.

(January 28, 2003 Office action, pg. 6).

However, as discussed above with respect to claims 1 and 17, Cheng neither teaches nor suggests "updating a row in the destination table with a row from the source table upon the success of a comparison operation on an element in the first column of the row from the source table and an

element in the second column of the row from the destination table" or "inserting a row from the source table into the destination table upon the failure of a comparison operation on an element in the first column of the row from the source table and an element in the second column of the row from the destination table" as recited in claims 9 and 25. Accordingly, based at least on the above, it is respectfully submitted that claims 9 and 25 are patentable over Cheng. Given that claims 10-12 and 26-28 depend from claims 9 and 25, applicants respectfully submit that those claims are also patentable over Cheng for at least the same reasons.

Claims 13 and 29 recite "updating the destination table with the set of update rows" and "inserting into the destination table the set of insert rows." The Office action states:

> Cheng does not explicitly teach updating the destination table with the set of update rows; and Inserting into the destination table the set of insert rows. Cheng teaches, "if the tuples of tables are preserved, then the operation is called full outer join" (col. 2, lines 49-50). In addition, Cheng also teaches, "in the output or answer set, for the non-matching tuples of a preserved table, NULL values assigned to the columns of other table" (col. 2, lines 53-55). This teaches the Null values are assigned to the columns of the other table (destination table). Therefore, it would have been obvious to one ordinary skill in the art to include the full outer join to combine those tables containing the columns of rows join those records and fill in the NULL values for empty columns to allow the user to receive the corrected result set from the requested query.

(January 28, 2003 Office action, pg. 8).

However, as discussed above with respect to claims 1 and 17, Cheng neither teaches nor suggests "updating the destination table with the set of update rows" or "inserting into the destination table the set of insert rows" as recited in claims 13 and 29. Accordingly, based at least on the above, applicants respectfully submit that claims 13 and 29 are patentable over Cheng. Given that claims 14-16 and 30-32 depend from claims 13 and 29, it is respectfully submitted that those claims are also patentable over Cheng for at least the same reasons.

CONCLUSION

On the basis of the above remarks, reconsideration and allowance of the claims is believed to be warranted and such action is respectfully requested. If the Examiner has any questions or comments, the Examiner is respectfully requested to contact the undersigned at the number listed below.

Respectfully submitted,

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Dated: 4-28-03

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Version with Markings to Show Changes

In the Specification

The paragraph starting on page 7, line 1, is amended as follows:

The content of database 20A may include a source table 100. Source table 100 may be comprised of various types of information related to the purpose of OLTP 10. The content of database 40A may include a destination table 110. Destination table [100]110 may be comprised of information related to the purpose of data warehouse 30A in addition to the purpose of OLTP 10.

The paragraph starting on page 7, line 6, is amended as follows:

For example, data warehouse 30A may maintain data related to online purchases of commercial products. Each purchase may be identified as a single transaction in database 40A. Destination table 110 may include a plurality of transaction records, each record comprising a customer identification and a total sale amount for all of the customer's combined purchases. OLTP 10A may process the transaction for each online purchase and store a record of each purchase in database 20A. Each transaction record may be stored in source table 100 and may be comprised of a customer identification and a sale amount for the individual transaction.

The paragraph starting on page 10, line 3, is amended as follows:

Fig. 5 is a flowchart illustrating how an example process for conditionally updating or inserting a row into a table may be implemented. In step 200, a column [form]from the source table may first be selected. Similarly, in step 205 a column from the destination table may be selected. Preferably, these columns selected are similar and contain the same type of data element. For example, although each column may be labeled differently, each column may contain social security numbers. Advantageously, this may allow for accurate comparison of the column elements.

In the Claims

Claims 1, 3, 6-8, 11, and 15-16 are amended as follows:

1. (Amended) A method for applying a row from a source table to a destination table, the method comprising:

selecting a first column from a source table;

selecting a second column from a destination table;

performing an outer join operation on the source table and the destination table using the first and second columns;

updating each row in the destination table with a row from the results of the outer join operation containing a matching element in the first and second columns; and

inserting into the destination table each row from the results of the[full] outer join operation with a non-matching element in the first and second columns.

3. (Amended) The method of claim 2 wherein [the]combining [step further]the rows in the source table comprises:

sorting the rows in the source table based on the element in the first column;[and]

creating a group of rows, wherein each row in the group of rows contains a matching element in the first column; and

combining the group of rows into a single row.

6. (Amended) The [method]process of claim 5 further comprising:

combining the rows in the source table, wherein the resulting source table has a unique element in each row of the first column.

7. (Amended) The [method]process of claim 6 wherein [the]combining [step further]the rows in the source table comprises:

sorting the rows in the source table based on the element in the first column;[and]

creating a group of rows, wherein each row in the group of rows contains a matching element in the first column; and

combining the group of rows into a single row.

8. (Amended) The [method]process of claim 5 wherein the comparison operation uses an equal comparison operator.

11. (Amended) The method of claim 10 wherein [the]combining [step further]the rows in the source table comprises:

sorting the rows in the source table based on the element in the first column;[and]

creating a group of rows, wherein each row in the group of rows contains a matching element in the first column; and

combining the group of rows into a single row.

15. (Amended) The method of claim 14 wherein [the]combining [step further]the rows in the source table comprises:

sorting the rows in the source table based on the source key;[and]

creating a group of rows, wherein each row in the group of rows contains a matching element in the source key; and

combining the group of rows into a single row.

16. (Amended) The method of claim 13 wherein the comparison operation uses an equal comparison operator.